Matter No.: 13909-026003 Par Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS Page 1 of 53

100

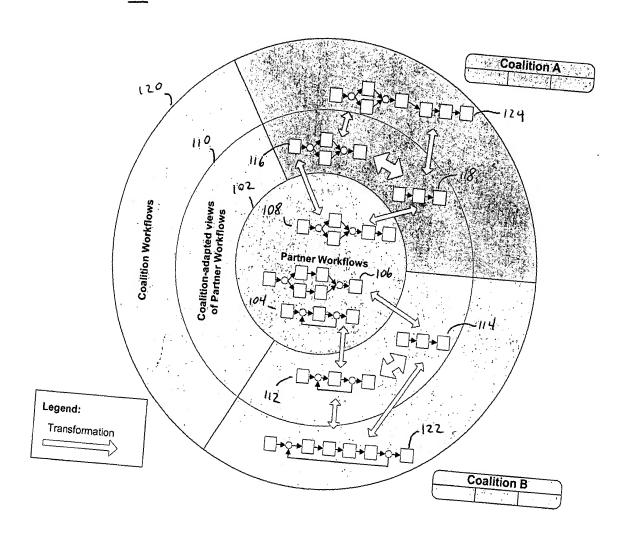


FIG. 1

Matter No.: 13909-026003

Page 2 of 53

Applicant(s): Karsten Schulz, et al.

TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS

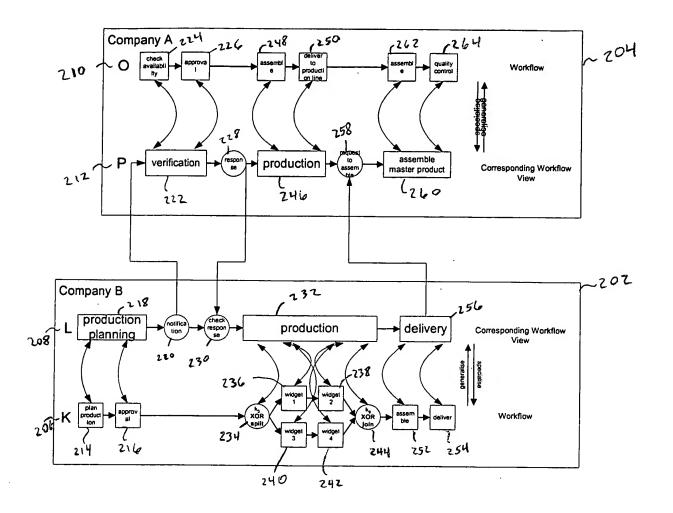


FIG. 2

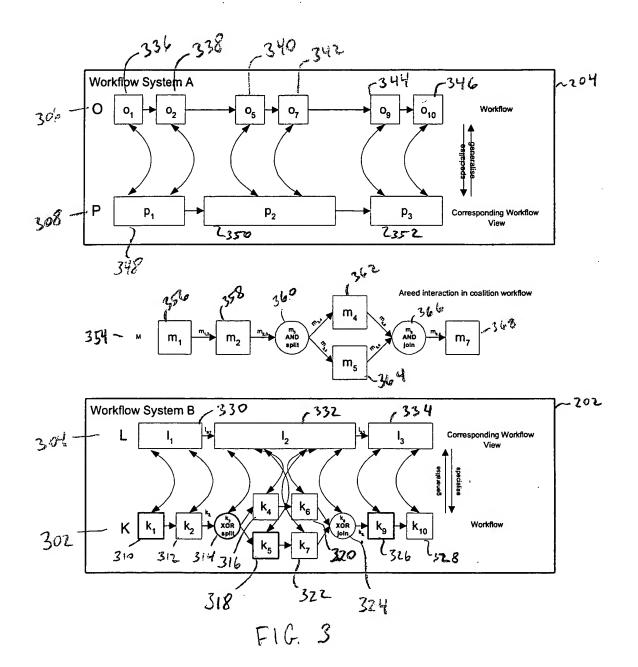
Matter No.: 13909-026003

Applicant(s): Karsten Schulz, et al.

TRANSFORMATIONS BETWEEN COMBINED AND

Page 3 of 53

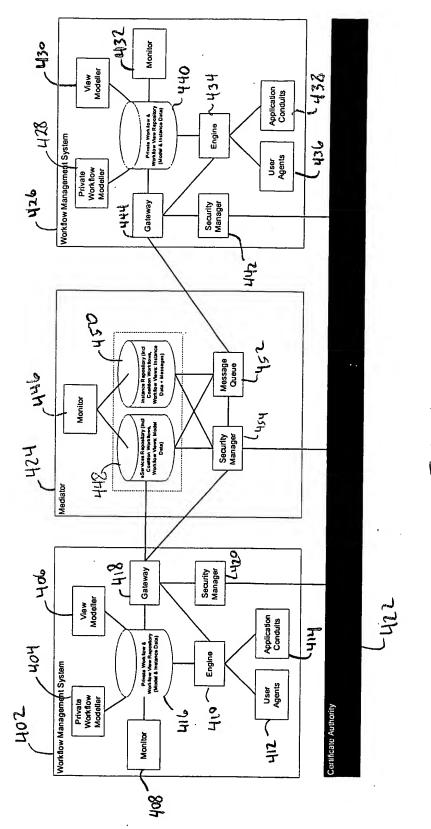
INDIVIDUAL WORKFLOWS



Page 4 of 53

Matter No.: 13909-026003 Pa Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

18



Page 5 of 53

Matter No.: 13909-026003 Pac Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

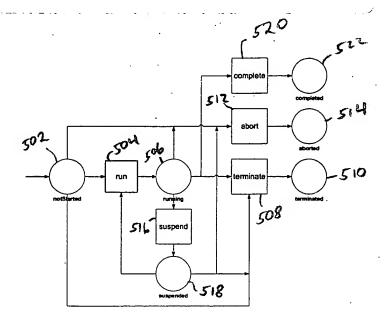
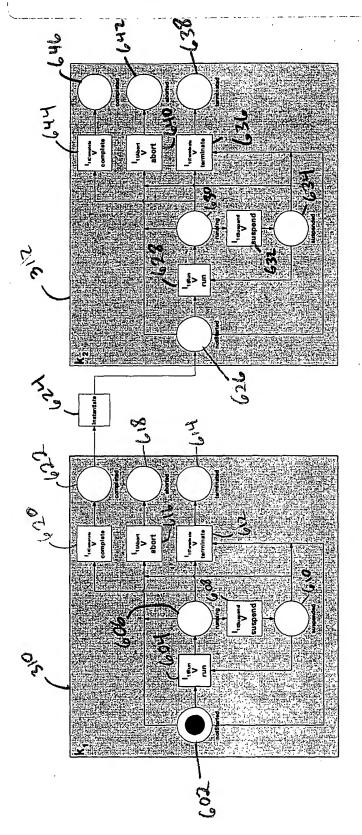
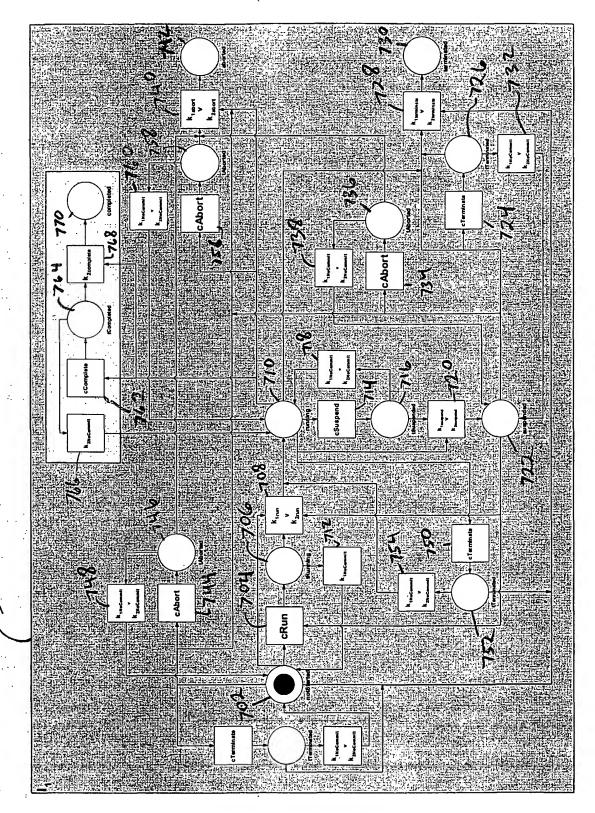


FIG. 5

Matter No.: 13909-026003 Pa Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS



Matter No.: 13909-026003 Pag Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS



Page 8 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

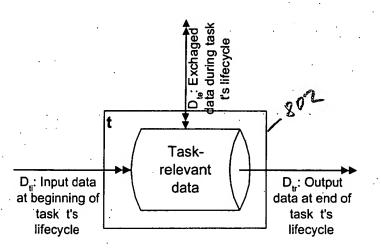


FIG. 8

Page 9 of 53

Matter No.: 13909-026003 Par Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS

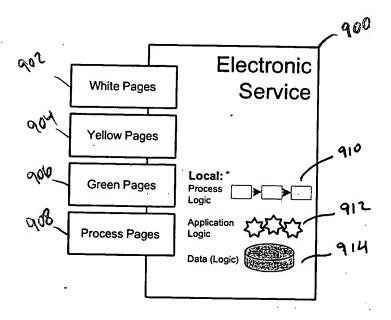


FIG. 9

Matter No.: 13909-026003

Page 10 of 53

Applicant(s): Karsten Schulz, et al.

TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS

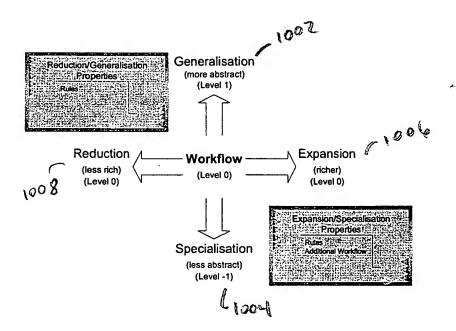
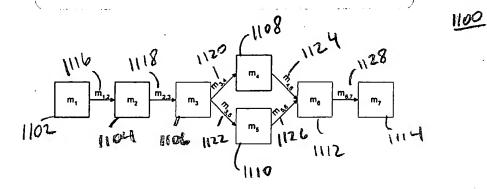


FIG. 10

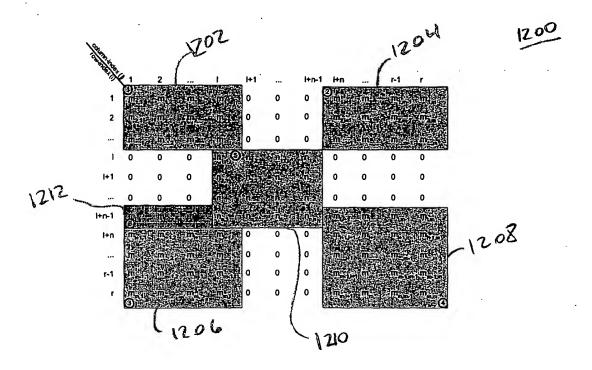
Matter No.: 13909-026003 Page 11 of 53
Applicant(s): Karsten Schulz, et al.
TRANSFORMATIONS BETWEEN COMBINED AND
INDIVIDUAL WORKFLOWS



F16. 11

Page 12 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS



FIC. 12

Matter No.: 13909-026003 Page 13 of 53 Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

1300

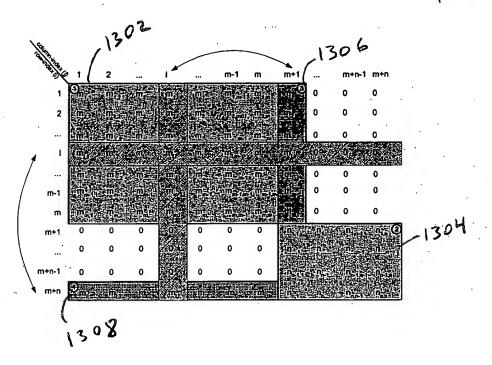


FIG. 13

Page 14 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

1400 2 1412 -1408 lyou 1410

FIG. 14

Matter No.: 13909-026003 Page 15 of 53 Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

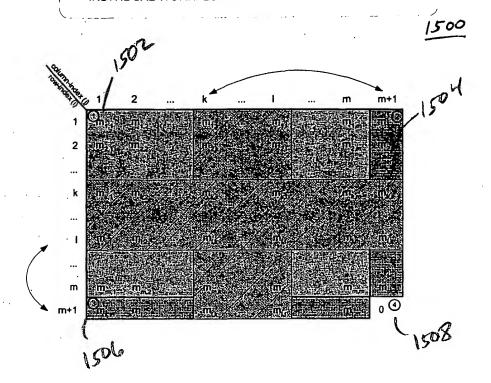


FIG. 15

Page 16 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

1600

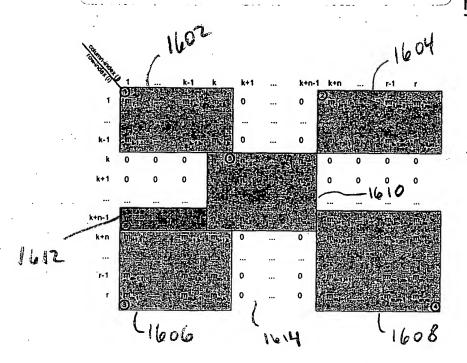
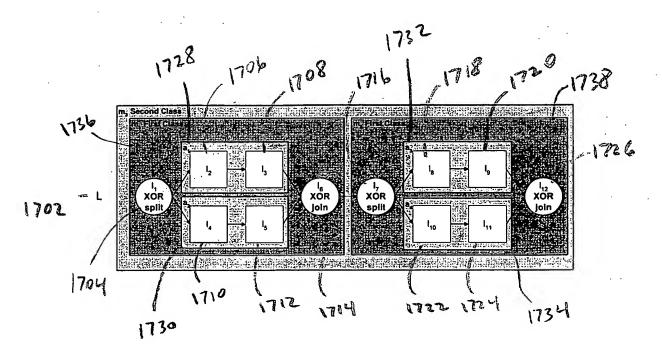


FIG. 16

Matter No.: 13909-026003

Page 17 of 53

Applicant(s): Karsten Schulz, et al.
TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS



F16. 17

Page 18 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

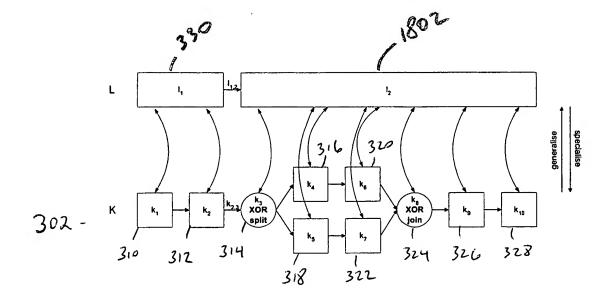


FIG. 18

Page 19 of 53

Matter No.: 13909-026003 Pag Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

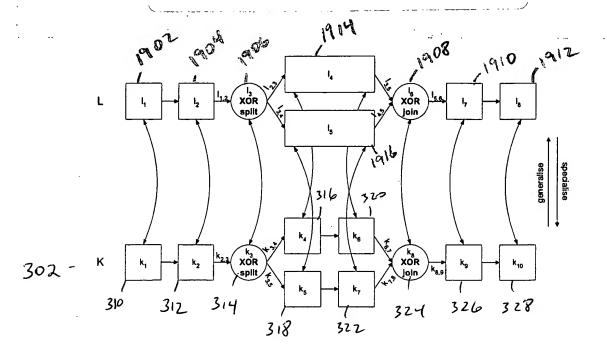
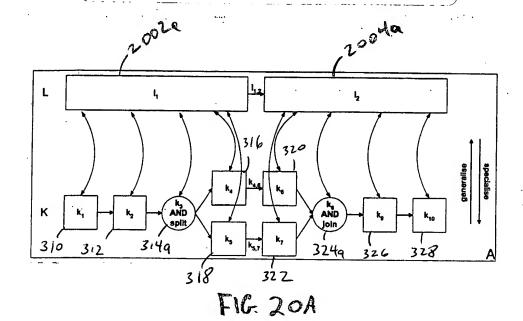


FIG. 19

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

Page 20 of 53



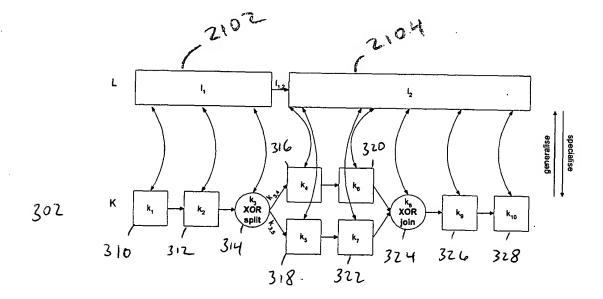
,200mg XOR split 310 312 314 324 326 328 318 322

FIG 20B

302a

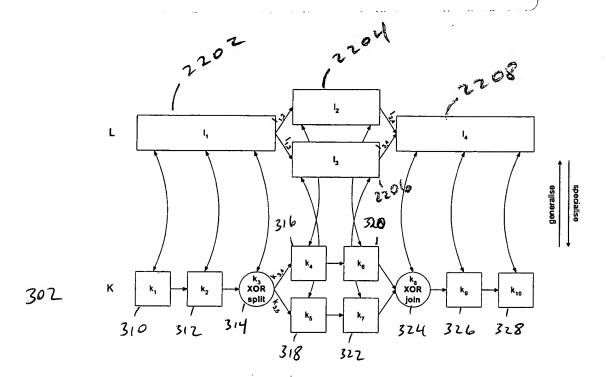
Page 21 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS



F16.21

Matter No.: 13909-026003 Page 22 of 53 Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS



F16. 22

Page 23 of 53

Matter No.: 13909-026003 Page
Applicant(s): Karsten Schulz, et al.
TRANSFORMATIONS BETWEEN COMBINED AND
INDIVIDUAL WORKFLOWS

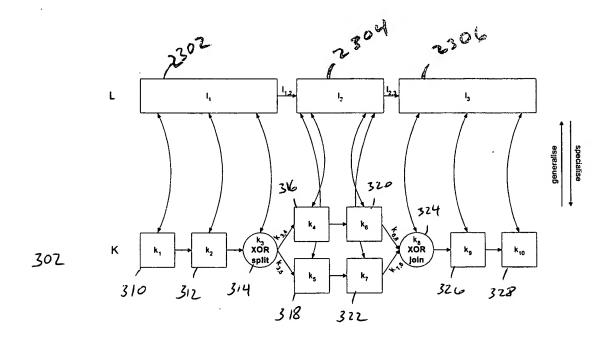


FIG. 23

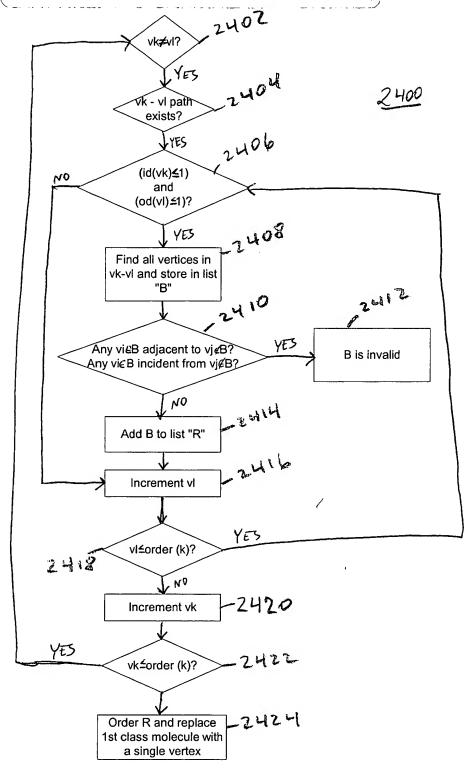


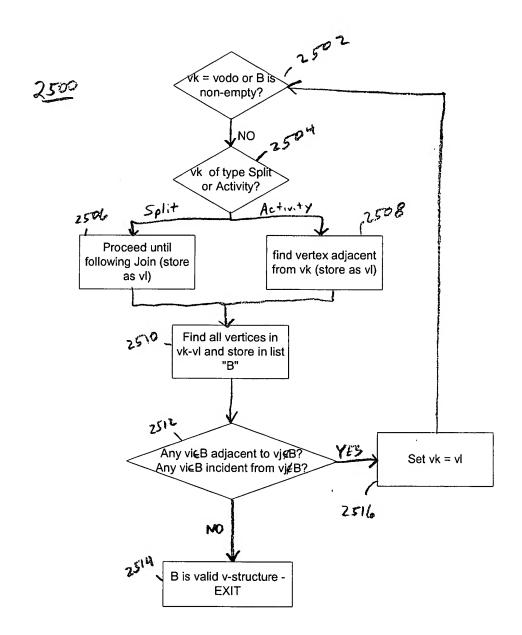
FIG. 24

Matter No.: 13909-026003

Applicant(s): Karsten Schulz, et al.

TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS



Page 25 of 53

FIG. 25

Matter No.: 13909-026003 Pag Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS

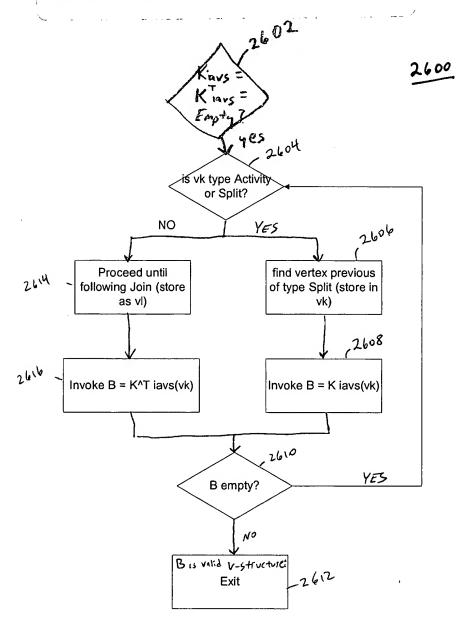
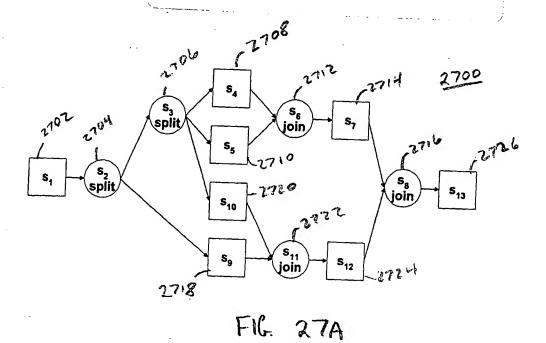


FIG. 26



v_k	$S iavs_e(v_k)$
Sı	$\{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
s ₂	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
<i>S</i> 3	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
S 4	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
S5	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
<i>s</i> ₆	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
<i>S</i> 7	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
<i>5</i> 8	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
<i>S</i> 9	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
\$10	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
S ₁₁	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
\$12	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
S13	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}, s_{13}\}$

FIG. 27B

Page 28 of 53 Matter No.: 13909-026003

Applicant(s): Karsten Schulz, et al.
TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

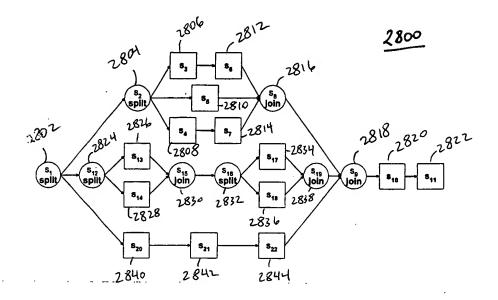
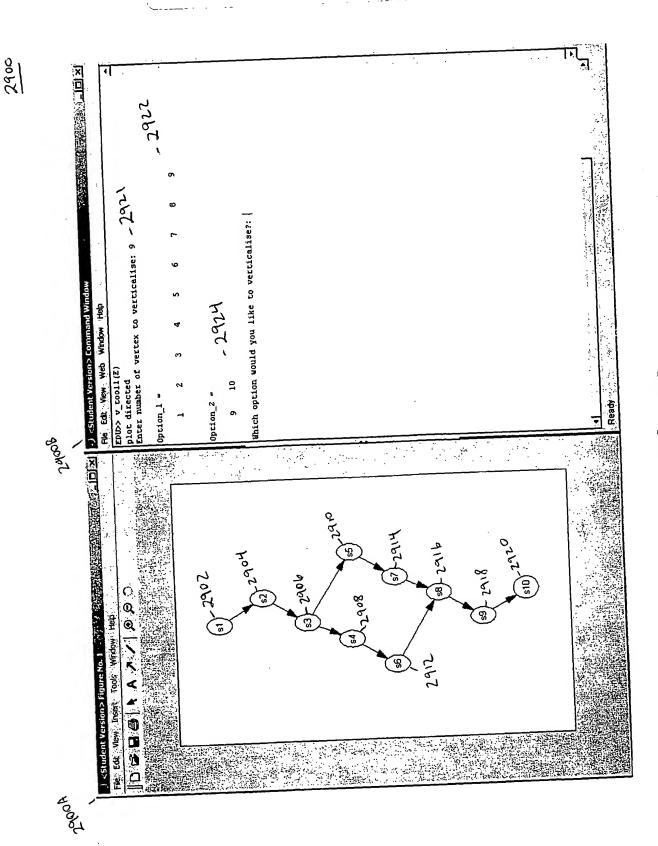


FIG. 28A

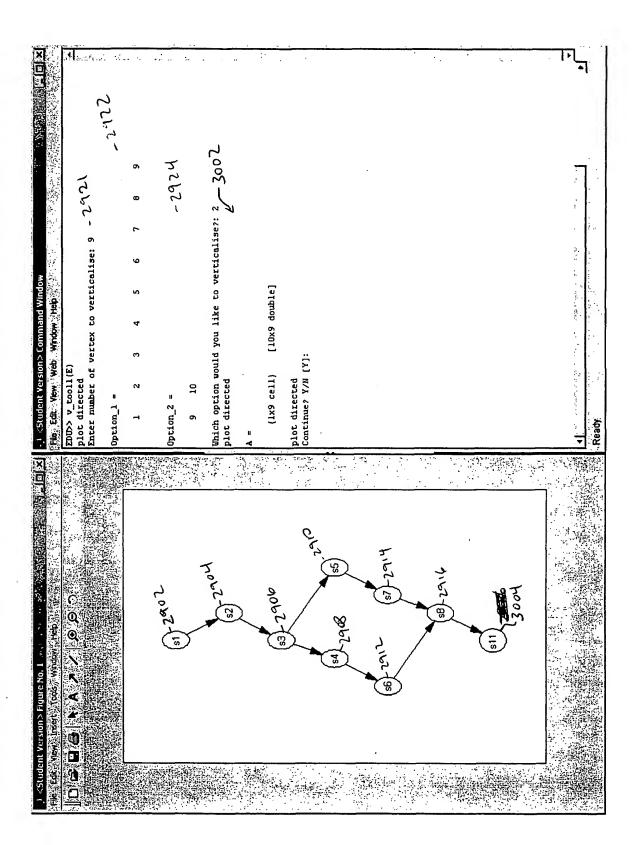
v_k	S iavs _e (v_k)
sı	$\{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{12}, s_{13}, s_{14}, s_{15}, s_{16}, s_{17}, s_{18}, s_{19}, s_{20}, s_{21}, s_{22}\}$
<i>S</i> 2	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8\}$
S3	$\{s_3,s_6\}$
S4	$\{s_4, s_7\}$
S5	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8\}$
<i>S</i> 6	$\{s_3, s_6\}$
S7	$\{s_4, s_7\}$
<i>S</i> 8	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8\}$
<i>S</i> 9	$\{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{12}, s_{13}, s_{14}, s_{15}, s_{16}, s_{17}, s_{18}, s_{19}, s_{20}, s_{21}, s_{22}\}$
510	$\{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{12}, s_{13}, s_{14}, s_{15}, s_{16}, s_{17}, s_{18}, s_{19}, s_{20}, s_{21}, s_{22}\},$
	$\{s_{10}, s_{11}\}$
SII	$\{s_{10},s_{11}\}$
S12	$\{s_{12}, s_{13}, s_{14}, s_{15}\}$
S13	$\{s_{12}, s_{13}, s_{14}, s_{15}\}$
S14	$\{s_{12}, s_{13}, s_{14}, s_{15}\}$
S ₁₅	$\{s_{12}, s_{13}, s_{14}, s_{15}\}$
S ₁₆	$\{s_{16}, s_{17}, s_{18}, s_{19}\}$
S ₁₇	$\{s_{16}, s_{17}, s_{18}, s_{19}\}$
S18	$\{s_{16}, s_{17}, s_{18}, s_{19}\}$
S19	$\{s_{16}, s_{17}, s_{18}, s_{19}\}$
S20	$\{s_{20}, s_{21}\}$
s ₂₁	$\{s_{20}, s_{21}\}, \{s_{21}, s_{22}\}$
S ₂₂ .	$\{s_{21}, s_{22}\}$

Matter No.: 13909-026003 Pag Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS



Matter No.: 13909-026003 Page
Applicant(s): Karsten Schulz, et al.
TRANSFORMATIONS BETWEEN COMBINED AND
INDIVIDUAL WORKFLOWS

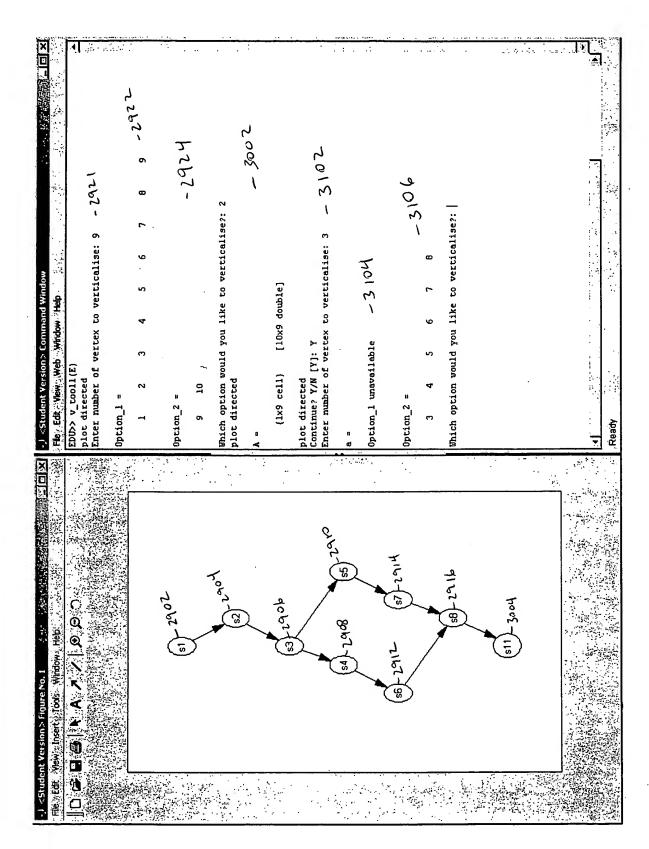
3000



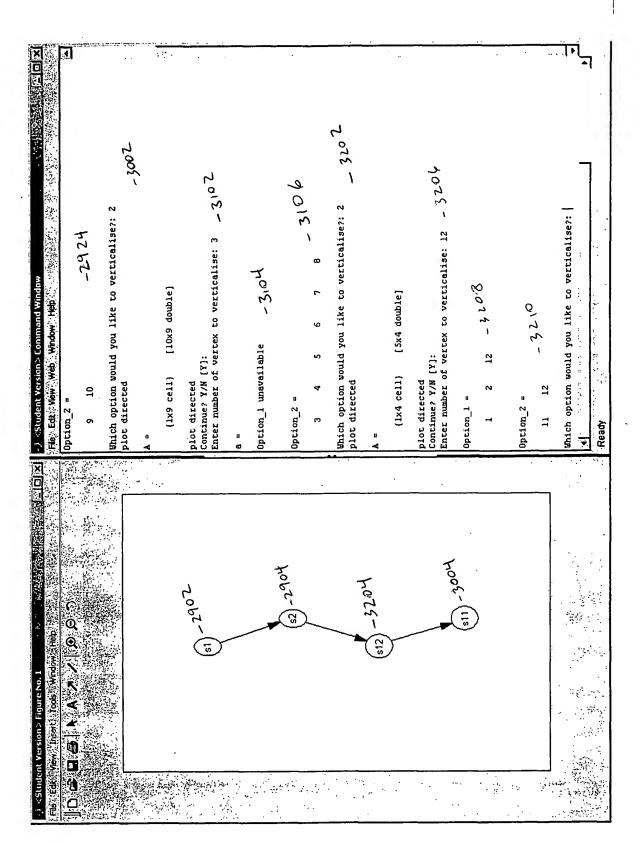
Page 31 of 53

Matter No.: 13909-026003 Pag Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

3100



Matter No.: 13909-026003 Pag Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS Page 32 of 53



Matter No.: 13909-026003 Pag Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

Page 33 of 53

3314 3316 t15 Partner A 3318 t17 t14 Partner B 3306 3308 3312

FIG. 33

Page 34 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

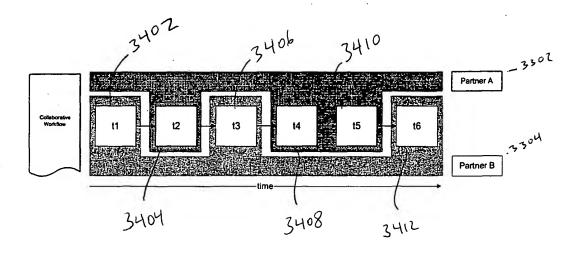


FIG. 34

Page 35 of 53

Matter No.: 13909-026003 Pag Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

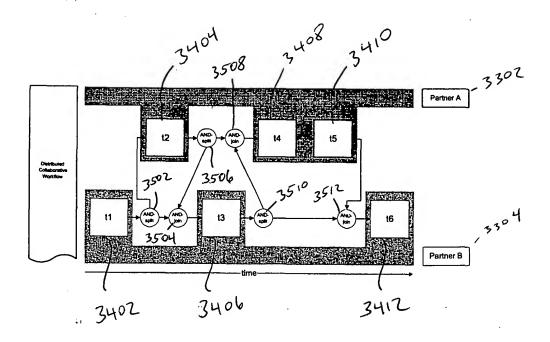


FIG. 35

Page 36 of 53

Matter No.: 13909-026003 Page
Applicant(s): Karsten Schulz, et al.
TRANSFORMATIONS BETWEEN COMBINED AND
INDIVIDUAL WORKFLOWS

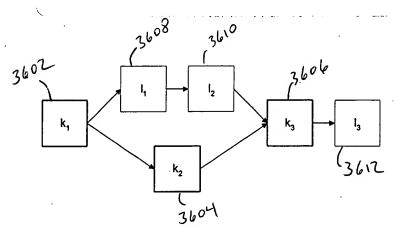


FIG. 36

Matter No.: 13909-026003 Page 37 of 53 Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

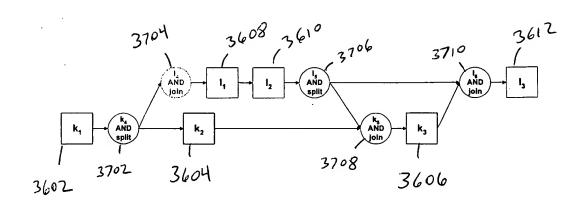


FIG. 37

Page 38 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

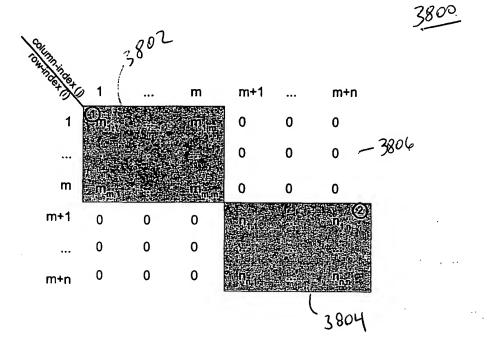


FIG. 38

Page 39 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

3900

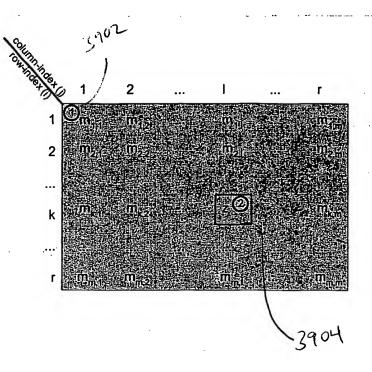


FIG. 39

Page 40 of 53

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

4000

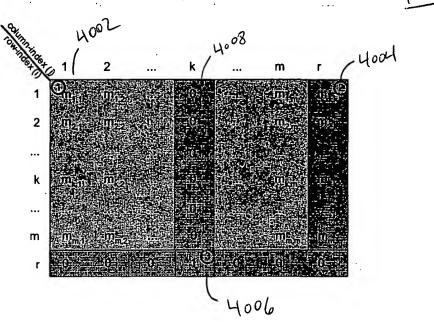


FIG. 40

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS Page 41 of 53

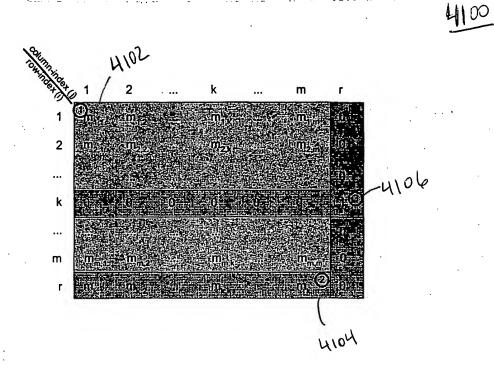
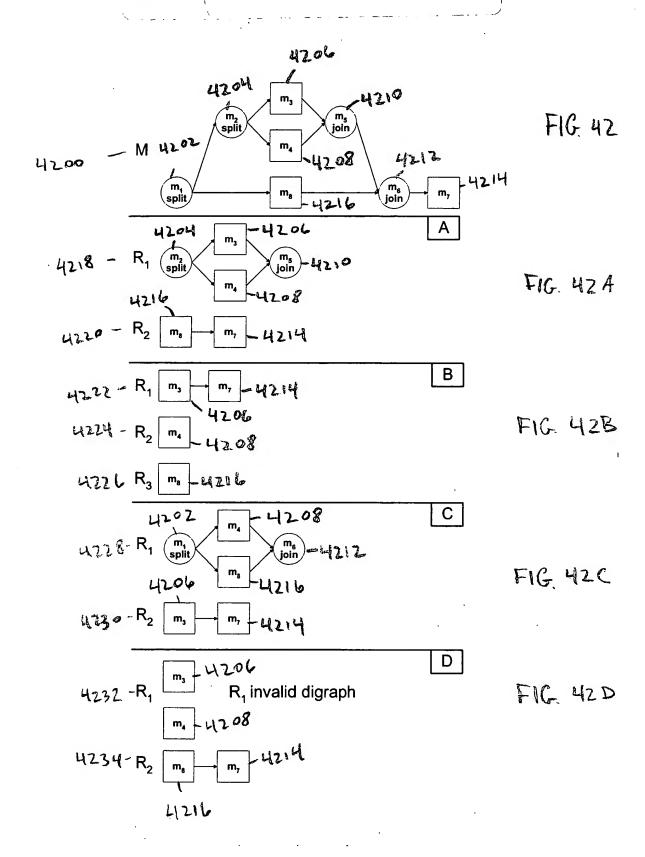


FIG. 41

Matter No.: 13909 026003 Page 42 of 53
Applicant(s): Kristen Schulz, et al.
TRANSFORMATIONS BETWEEN COMBINED AND
INDIVIDUAL WORKFLOWS



Ä

Matter No.: 13909-026003 Page 43 of 53 Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

1300

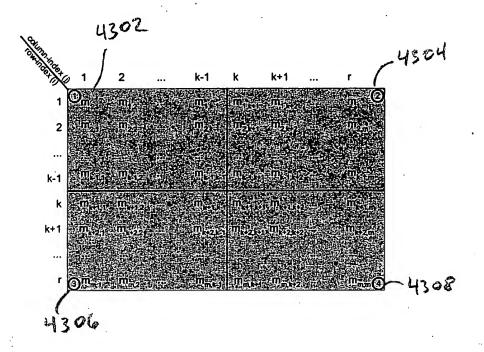


FIG. 43

Matter No.: 13909-026003 Page Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND INDIVIDUAL WORKFLOWS

Page 44 of 53

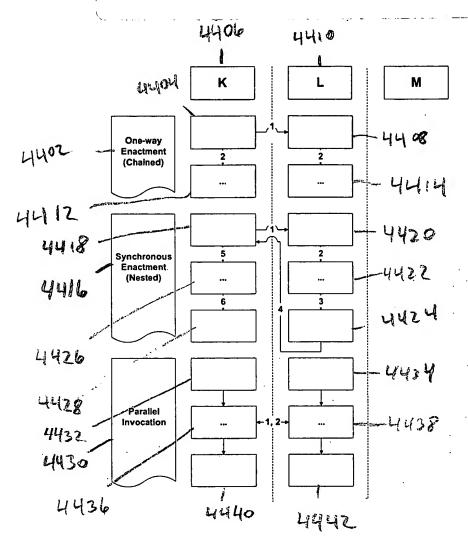


FIG. 44

Matter No.: 13909-026003 Page 45 of 53
Applicant(s): Karsten Schulz, et al.
TRANSFORMATIONS BETWEEN COMBINED AND
INDIVIDUAL WORKFLOWS

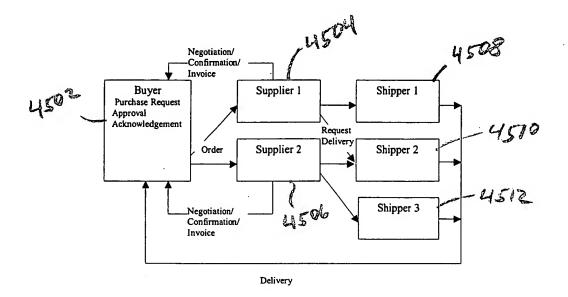


FIG. 45

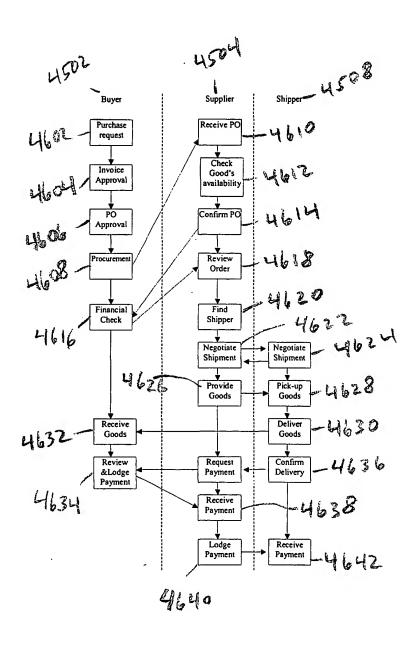
Matter No.: 13909-026003

Page 46 of 53

Applicant(s): Karsten Schulz, et al.

TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS



F16. 46

Matter No.: 13909-026003 Page 47 of 53 Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS

4702 Workflow Management System 404 406 416 Private workflow View Modeler modeler Private Workflow & Workflow View 418 Repository (Model and Instance Data) 404 Gateway **Private** 4704 workflow 420modeler Aggregation **Engine** Security Manager 410~ 414 412 Workflow **Application** User agents **Engine** Conduits

FIG. 47

Matter No.: 13909-026003

Page 48 of 53

Applicant(s): Karsten Schulz, et al.

TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS

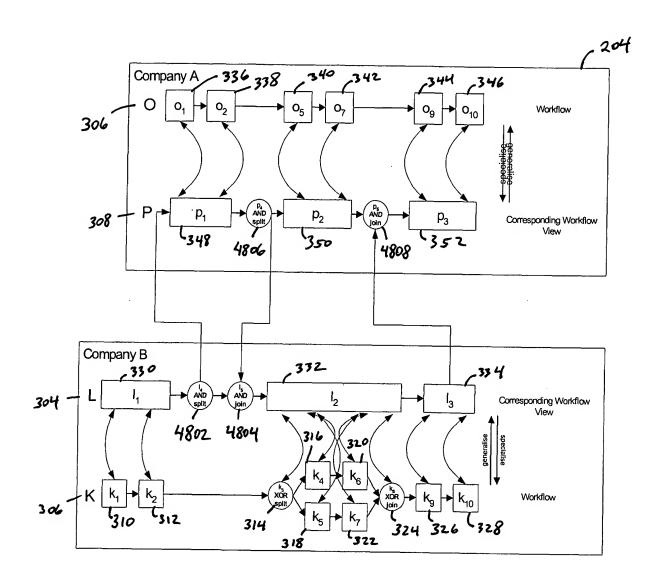


FIG. 48

Matter No.: 13909-026003

Applicant(s): Karsten Schulz, et al. TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS

<u>4900</u>

Page 49 of 53

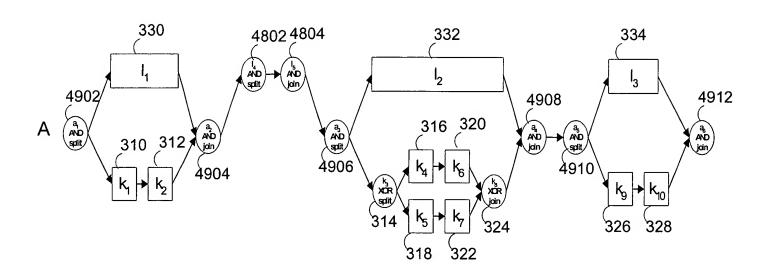


FIG. 49

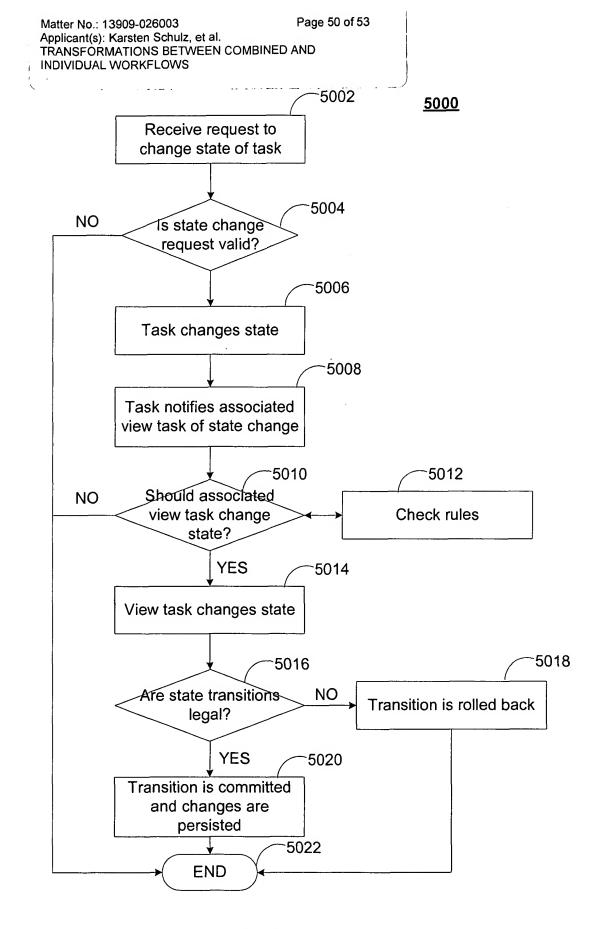


FIG. 50

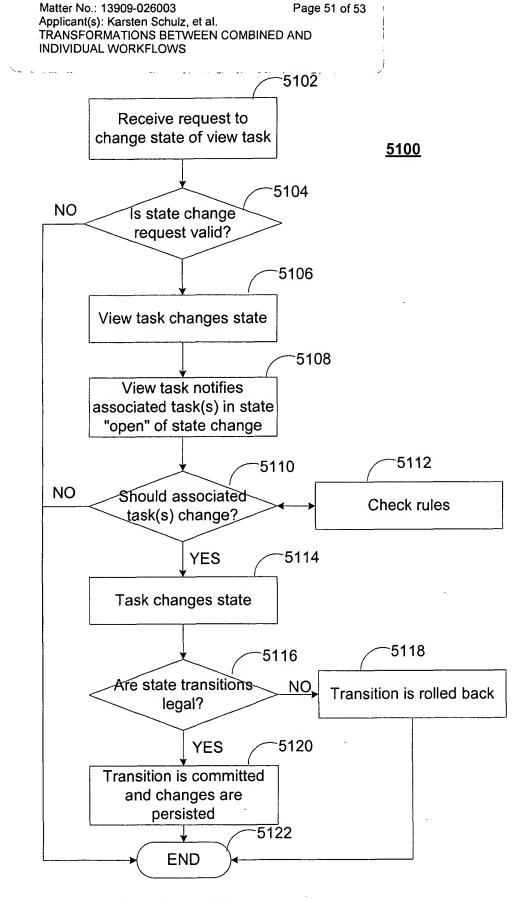


FIG. 51

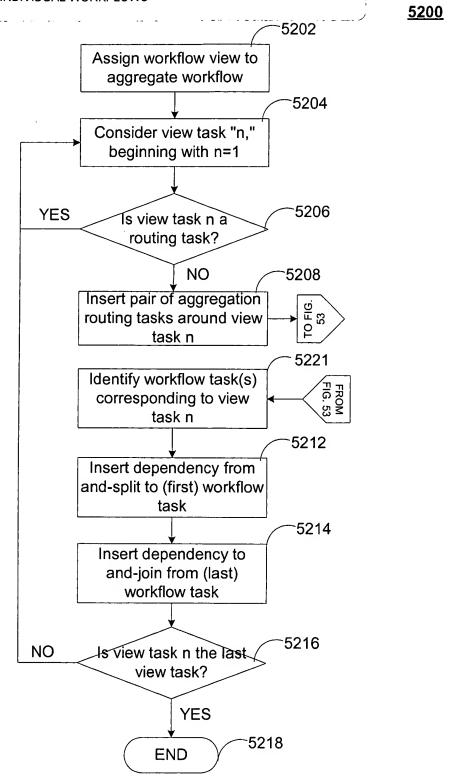


FIG. 52

Matter No.: 13909-026003 Page 53 of 53 Applicant(s): Karsten Schulz, et al.

TRANSFORMATIONS BETWEEN COMBINED AND

INDIVIDUAL WORKFLOWS

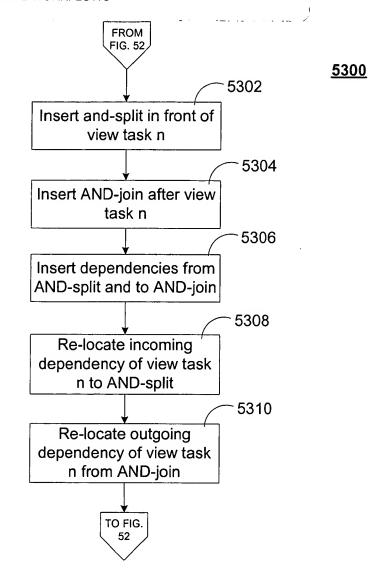


FIG. 53